

A NEW RECORD OF THE POLYCHAETE *DORVILLEA GARDINERI* (CROSSLAND, 1924) (FAMILY DORVILLEIDAE) FROM PAKISTAN

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خلاصہ

اس مقالہ میں خاندان Dorvilleidae chamberlin, 1919 کو پیش کیا گیا ہے۔ جو پہلی مرتبہ پاکستان سے دریافت ہوا ہے۔ ایک معمول کے سروے کے دوران اس نوع (Dorvillea gardineri (Crossland, 1924) کے تین نمائندے ستمبر 2017 کو Buleji، کراچی، پاکستان کے ساحل سے دریافت ہوئے۔ یہ نوع پاکستان سے نیا ریکارڈ ہے چنانچہ اس کو وضاحت کے ساتھ اور تصویری خاکوں کے ساتھ پیش کیا گیا ہے۔

Abstract

This paper reports Family Dorvilleidae Chamberlin, 1919 for the first time from Pakistan. During routine survey of polychaete worms, three specimens of *Dorvillea gardineri* (Crossland, 1924) were found in September 2017 from intertidal zone at Buleji, Karachi, Pakistan. This species, being a new record for Pakistan, is briefly described and illustrated herein.

Key words: Polychaeta; Dorvilleidae; *Dorvillea gardineri*; Karachi; Pakistan.

Introduction

The polychaete fauna of Pakistan is little-known. Polychaete belonging to Family Dorvilleidae Chamberlin, 1919 has never been reported from Pakistan so far. Dorvilleid worms are common, but inconspicuous due to their small size. They have been reported from the coastal waters of neighboring countries like India and Iran (Fauvel, 1953; Banse, 1959; Day, 1967; Vazirizadeh & Iman, 2011). In Family Dorvilleidae the prostomium is distinct and has a pair of palps and a pair of antennae; both palps and antennae may be reduced or absent. The peristomium is a single ring or is subdivided into two rings. Pharynx eversible; mandibles, carriers and denticles are present. The parapodia are usually uniramous or sub-biramous; with well developed neuropodia and reduced notopodia. The notopodium is represented only by dorsal cirrus, with or without notoacacula. Notochaete are usually absent. Neurochaete include simple capillaries and heterogomph spinigers. Furcate chaete, ventral cirri and pygidial cirri may be present or absent.

Dorvillea gardineri was first described by Crossland in 1924 as *Staurocephalus (Dorvillea) gardineri* from Maldives. Pettibone (1961) revised the Family and erected a new genus *Papilliodorvillea* for dorvilleid worms having nuchal papilla. She placed *S. (D.) gardineri* in the new genus as a type species. However, in a later generic revision of Family Dorvilleidae in 1974, Jumars placed *Papilliodorvillea gardineri* (Crossland, 1924) in genus *Dorvillea* Parfitt, 1866. Jumars (1974) considers that nuchal papilla constitutes less important character than furcate chaete. His classification is widely accepted.

This paper reports Family Dorvilleidae for the first time from Pakistan. *Dorvillea gardineri* being a new record for Pakistan is described and illustrated herein.

Materials and Methods

Three specimens of *D. gardineri* were collected from Buleji sandy beach (24° 50' 26.6" N; 66° 9' 20.7" E), Karachi in September 2017. They were found in the sediment of intertidal zone, during low tide. Out of three, two specimens were complete while third one lacked posterior segments. They were brought alive to the laboratory and examined under stereomicroscope. They were then fixed in 4% formalin and later preserved in 70% alcohol. Drawings were made with the help of drawing tube fixed on Olympus microscope.

Results and Discussions

Family Dorvilleidae Chamberlin, 1919

Genus *Dorvillea* Parfitt, 1866

Dorvillea gardineri (Crossland, 1924) (Figure A-F)

Staurocephalus (Dorvillea) gardineri Crossland, 1924: 93-99, Figure 112-118.

Staurocephalus gardineri: Fauvel, 1953: 280, Figure 143d-f.

Papilliodorvillea gardineri: Pettibone, 1961: 181-182.

Dorvillea gardineri: Day, 1967: 455, Figure 17.21a-c; Jumars, 1974: 113-115, Figure 5

Body of small size; 3 and 3.5 mm long for 42 and 46 chaetigers. Prostomium rounded with two pairs of eyes, a pair of antennae and a pair of palps (Figure A). Anterior pair of eyes is larger than the posterior one. Antennae are jointed (4-6 joints), palps wrinkled and slightly longer than the antennae. A nuchal papilla is present. Mandible H-shaped (Figure B). Toothed maxillary plates are in two rows on each side. Parapodia are sub-biramous except first parapodia, which lack dorsal cirri. Notopodium is represented by dorsal cirrus, which is well developed and bear fine aciculum (Figure C). Notochaete are absent throughout. Neuropodium well developed with a stout aciculum. Neurochaete include capillaries (Figure D) and heterogomph falcigers with bidentate tip (Figure E). Ventral cirrus is smaller than the dorsal one. Furcate or forked chaete absent.

A tropical Indian Ocean species occurs in shallow waters (Jumars, 1974). It is recorded from East Africa (Crossland, 1924), Maldive Archipelago (Fauvel, 1953), Madagascar (Day, 1967), Wasin in Kenya, Kuwait, Bikini Atoll (Jumars, 1974), Bushehr in Iran (Vazirizadeh and Iman, 2011) and now from Pakistan.

Our specimens agree well with the illustrations and descriptions given by Fauvel (1953) for Maldive specimens. The only difference noted between the present specimens and the specimens of *D. gardineri* described by Day (1967, p. 455) from Madagascar, is bidentate tip of heterogomph falcigers in present specimens instead of tridentate tip. Furcate chaete are not present in *D. gardineri*. Some heterogomph falcigers with broken distal blade may give the impression of furcate or forked chaete (Day, 1967), but the furcate chaete are distinct.

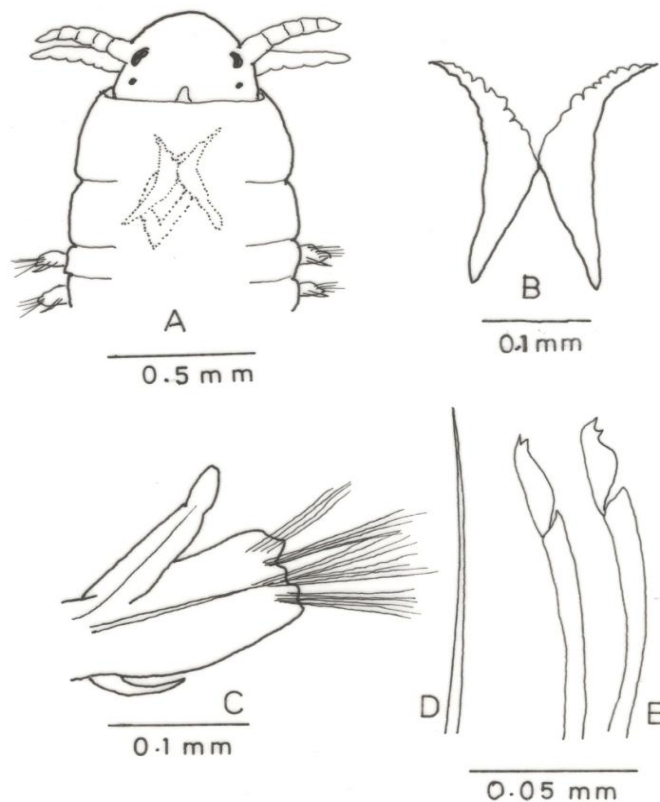


Fig.1. *Dorvillea gardineri*: (A) anterior region, dorsal view, (B) mandibles, (C) 5th parapodium, (D) capillary chaeta, (E) heterogomph falcigers

Conclusion

Family Dorvilleidae Chamberlin, 1919 and its species *Dorvillea gardineri* (Crossland, 1924) was first time reported from Pakistan. Being a new record, is briefly described and illustrated herein. Since, Dorvillid worms are of small size and of dull colour people fail to notice them in the field. If extensive survey is carried out and careful examination of sediment is done then some more species of dorvilleid may be found from our coastal waters.

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